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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,994	08/09/2005	Patric Heide	14219-090US1 P2003, 0002	7992
26161	7590	08/10/2007	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			CHEN, SHELLEY	
			ART UNIT	PAPER NUMBER
			3662	
			MAIL DATE	DELIVERY MODE
			08/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,994	<b>Applicant(s)</b> HEIDE, PATRIC	
	<b>Examiner</b> Shelley Chen	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 8-20 and 23-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-7, 21, 22 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant's election without traverse of Group I filed on 11 July 2007 is acknowledged. Claims 8-20 and 23-25 are withdrawn from further consideration by the examiner under 37 CFR 1.142(b) as being drawn to a non-elected invention.

#### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Radar Transceiver Integrated Circuit for Microwave and Millimeter Applications.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. **Claims 1-7, 21-22, and 26 rejected** under 35 U.S.C. 103(a) as being unpatentable over **Cadotte et al.** (U.S. Patent # 6,091,355).

**Regarding claims 1, 3, and 26**, Cadotte discloses a radar transceiver comprising all of the limitations of the instant invention, including the claimed oscillator (figures 4-5, column 6 line 29- column 7 line 6, etc.), the claimed mixer (figure 8, column 8 lines 40-47, etc.), and the claimed substrate (figure 1, claims 1-2, etc.), except that Cadotte does not require that the conducting surfaces be metallized surfaces.

However, metal is the most commonly known conductor and is suggested by Cadotte as a conductor for another portion of the radar transceiver (column 5 lines 49-52).

It would have been obvious to use metallized surfaces as conducting surfaces, as suggested by Cadotte and many others, in order to cheaply and effectively conduct current, with no new or unexpected results.

Please note that layer 6 of figure 1 can be considered the "top" layer, even though it is depicted at the bottom of the page and referenced as the "bottom" layer by

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Cadotte, because the radar transceiver of figure 1 has no required orientation; if it is flipped over, the top becomes the bottom and vice-versa.

**Regarding claim 2**, it is well known in the art to choose a voltage-controlled oscillator for an oscillator; it would have been obvious to do so in order to enable simple and adjustable control of the oscillation frequency, without any new or unexpected results.

**Regarding claim 4**, it is well known in the art to use a varactor diode for frequency tuning; it would have been obvious to do so in order to enable simple and adjustable control of the tuned frequency (for example, by use of the varactor diode in a voltage-controlled oscillator of the frequency tuner), without any new or unexpected results.

**Regarding claim 5**, it is well known in the art to use a hybrid ring for a mixer; it would have been obvious to do so in order to implement a relatively simple mixer on an integrated circuit, without any new or unexpected results.

**Regarding claims 6-7**, it is well known in the art to use a frequency divider at the output of an oscillator; it would have been obvious to do so in order to downconvert the oscillator output into an appropriate frequency range for transmission, reception, or

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input into any circuit component with a limited operating range of frequencies, without any new or unexpected results.

**Regarding claims 21-22**, it is well known in the art to frequency or amplitude modulate a radar signal via frequency/amplitude keying of an oscillator, an amplifier, or a very high frequency switch; it would have been obvious to do so in order to enable continuous transmission, reception, and analysis of the radar signals, without any new or unexpected results.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelley Chen whose telephone number is (571) 270-1330. The examiner can normally be reached Mondays through Thursdays and on alternate Fridays, between 10:00 AM and 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached at (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shelley Chen,



Patent Examiner

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August 7, 2007



THOMAS H. TARCZA  
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